An Inaugural Dissertation

on

Lithotomy;

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Lithotomy

Lithotomy is the operation for removing a calculous formation, from the bladder, by means of an artificial opening.

This operation may be necessary at any age, but is more successful if performed during the vigorous stages of life, because in declining years the system does not possess sufficient vital power to ensure a rapid healing of the opening; and this lack of vitality also increases the danger of phlebitis of the prostate gland and neck of the bladder.

Lithotomy is oftener performed on the male, than on the female, because the shortness of the female urethra allows the concretion to pass off spontaneously, or to be removed by Lithotripsy

Various remedies both medicinal, and chemical, have been invented for dissolving, or removing, this formation, but there has not

been known a single case in the whole history of medicine, where a stone has been dissolved, or removed, by medical treatment alone.

These concretions may be single, or multiple. If multiple they are smaller and worn smooth by friction, the largest are always single, and have been known to weigh 44 ounces.

There some instances where the cause can be easily ascertained; as when some foreign body has been accidentally inserted into the bladder by way of the urethra, during some surgical operation in this region; or when boys in their play have inserted shot, or grains of wheat, into the urethra. These substances and especially rough bodies, remaining in the bladder form a nucleus for the adherance of the solid constituents of the urine, and sometimes attain to large size.

But aside from these, the causes are obscure,

Different kinds of concretions are found in dif-
ferent diatheses. In some localities, there is evident-
-ly a disposition to these formations. while in others
they are unknown. Generally, they are most com-
-mon in cold climates, sometimes they are he-
-reditary as in a case witnessed by the writer in
1866. The patient was but four years old, and the
formation had undoubtedly been there from
birth

No Surgeon should attempt this opera-
tion, unless he is sure there is a Stone in the
bladder.

The diagnostic signs are of two kinds, ra-
-tional, and physical.

Of rational signs we have. first, pain in the blad-
-der and adjacent parts while urinating, esp as the
last drops are passing. A sensation of uneasiness,
as from a weight, in the pelvis, perineum and
anus. Frequent attempts at micturition, with

occasional sudden stopping of urine. which starts again on motion. The person will often lie on the side, or kneel and rest the head upon the floor. as these positions remove the stone from the neck of the bladder, and render micturition less difficult

Pain, and Itching of the glans penis, with smarting sensations, at the orifice of the urethra, Enlargement of the penis and elongation of the prepuce.

Occasional priapism

An increased secretion and discharge of mucus streaked with blood, or blood may be discharged with the urine

Itching and irritation of the anus.

The suspicion will be strengthened if the person has had occasional attacks like colic. caused by small calculi passing down the ureter

When these symptoms. or a part only are

present, the Surgeon would be justified in sound-
-ing the bladder, which operation, if skillfully perform-
-ed will dispel all doubts.

A common catheter is a poor substitute for a sound. The instrument used in sounding should be of tempered steel, and the curved part more curved than catheters generally are, in order that all parts of the bladder may be reached.

The same care must be observed in passing the sound, as the catheter. It should be warmed and oiled, and passed without using force, and keeping the point in contact with the upper or pubic portion of the urethra. Before passing the sound, the bladder should be moderately distend-
-ed by retention of urine. If the concretions are small, however, the operation will give more sat-
-isfactory results if the bladder is empty.

As this disease is of such a nature that the operation can generally be delayed a few days,

the system should be put in the most favorable condition for undergoing the operation and for speedy recovery. The person should not be suffering from any acute disease. The urine should be normal and have its proper acid reaction. And the person should not be in a state of bodily fatigue, and a proper diet, must be observed from the first.

Surgical writers describe several methods of operating, of which the following have each in their turn been advocated by different Surgeons, at different periods.

Apparatus Mainer, or Celsus method.

Apparatus Major, invented by John Romani.

The High operation, now used if the stone is very large

The Recto-vesical operation.

The Bilateral operation.

The Lateral operation.

Of these the last, only, will be considered, as it is

the only one in general use at the present time.

Many instruments have been devised for this operation, many of which have their merits. Every operator has his fancies but these most in use are the. Staff. Scalpel. Forceps. Scoop. and a large Syringe with a peice of flexible rub-ber tube. It is advisable to have a duplicate set. to be used in case one should be broken.

The Staff is of steel, shaped like an ordinary cath-ster. and large enough to well fill the urethra. and about 10 inches long exclusive of the curved portion. and handle. On the outside of the curve and to the left, when inserted, is a well defined groove to direct the point of the scalpel.

The Scalpel should be longer, and narrower, than the ordinary instruments of this kind and sharp pointed.

The Forceps are light and slender instruments with spoon shaped extremities.

The Scoop is shaped like the bowl of a small tea-spoon, and has a strong handle.

A Stone-crusher shaped like a pair of stout dental forceps, the jaws armed with rough projections, is often useful in case the formations are too large to be removed whole.

Also ligatures and means for tying arteries, should be at hand.

Whatever instruments are used. they should be arranged in their proper place, and examined by the surgeon himself.

The use of some anaesthetic is always advisable, as the pain is not only relieved for the time being, but success is more likely, than when the patient is writhing under the Surgens knife, and obviating the necessity for haste which the Operator would other wise feel.

For producing anaesthesia and especially for this operation, Ether is best, as the secondary effects

are more transcient, than those of Chloroform, and its use less dangerous. The rectum must be well evacuated by an enema, and the patient directed to retain the urine for a few hours previous to the operation. If this has not been done the bladder must be injected moderately full of water, and the patient is then ready for the operation.

The patient should lie on a narrow and rather low table, with the head and shoulders elevated, and the body slightly bent upon itself, in order to bring the bladder well down into the pelvis. Care should that the body is not twisted upon itself, as the patient lies in position.

The Ether may now be administered by an assistant, after which the lower limbs should be flexed, and the hands made to grasp the ankles, and with a bandage firmly secured in that

position. Then the patient is moved so that the breech will just project over the edge of the table.

The Surgeon chooses his own position, some prefer to set in a low chair, and others to assume a half kneeling posture.

The Staff may now be passed, using the same care as in passing the Sound. The Stone should always be sounded with the staff before making the first incision, as the staff may have pierced the walls of the urethra and not entered the bladder.

The Staff must be held by the most trustworthy assistant, because if improperly or carelessly held it may confuse the best Surgeon. The same assistant may hold the scrotum out of the way. The curved portion is held firmly under the pubis, and the handle turned towards the right, which inclines that portion within the bladder toward the left, making it correspond

to the incision which is to be made in the left lobe of the prostate gland.

Before making the incision it is well to pass the finger into the rectum, which causes it to contract, and by feeling the prostate gland. the direction for the incision may be accurately determined.

As a general direction, if the incision in the skin represents the base of a triangle, and the incision in the urethra and prostate gland the truncated apex, the incision cannot fail to be proper, but this for an operation on the living person is too indefinite, therefore a more careful description of the parts to be divided will be necessary.

In a person with a narrow pelvis, the angle of the incision with the perpendicular axis of the body will be less than with a broader pelvis.

The incision in the skin should begin just at the left of the raphe of the perineum, about

one inch above the anus, then pass downwards and outwards, to a point about half way between the tuberosity of the ischium and the anus, making an incision about three and one half and four inches in length, which should be about three fourths of an inch in depth; or, if there is much fat, it may be proportionally deeper. In making this incision, the upper extremity should be abrupt the lower one may be receding. The parts likely to be divided in this incision, will be the skin, superficial fascia, the inferior and external haemorrhoidal, and nerve, the transverse, and perhaps the superficial perineal arteries. These will cause some hemorrhage but if the vessels are normal it will be but slight. The index finger of the left hand may now be introduced, and directed towards the staff, dividing the tissues with the nail, until the groove in the staff is found, and in which the nail should be firmly placed, at the

membranous portion of the urethra, holding the rectum back, at the same time, to avoid wounding it. The artery of the bulb passes just above the transversus perinei muscle, to avoid this, introduce the point of the Scalpel, from below upwards, and place it firmly in the groove of the staff, just at the anterior edge of the prostate gland. Then raising the handle, so that it will be nearly parallel with that part of the staff that passes through the prostate gland, pass it well through the gland keeping the blade in a direction corresponding laterally, to the external incision, so that the left lobe of the gland will be divided in its longest axis.

The parts divided in this incision are the deep perineal fascia, the posterior fibres of the accelerator urinæ muscle, the transversus perinei muscle the levator ani, the posterior part of the membranous portion of the urethra, and a portion

of the prostate gland.
On withdrawing the scalpel, the finger of the left hand will be passed into the bladder, and the staff removed. After this has been done, the finger must not be taken from the opening until the stone is secured, either with the forceps, or the scoop and finger. Should the finger be removed, the attempt to reinsert it might sever the attachments of fascia in this region, creating diffuse inflammation and its results. Now the finger may be used as a searcher, or the scoop passed in, and the size of the stone ascertained and removed if possible, or the forceps may be used. All traction must be very gentle. Often the stone is so large that dilation may be necessary, which is performed by giving the forceps undulating motion, or, if the stone is yet too large, a transverse incision can be made meeting with the first at a right angle.

Other difficulties may present themselves, For instance, the stone may lodge in the base fond of the bladder. Then the finger will be passed into the rectum, and by elevating that portion the stone will fall before the orifice.

The stone may be crushed in the effort to remove it, or there may have been many small calculi, then the Scoop, and the Syringe will be indispensable.

The stone, if small, may have passed off, unnoticed, with the first gush of urine.

The incision should not be continued too near the median line, as the bulb of the corpus spongiosum or the rectum may be wounded, and on the other hand, the incision should not extend too far laterally, or the internal pudic artery will be in danger as it runs upwards along the ramus of the pubis. especially

is care necessary near the upper angle of the incision

If the incision is carried too far forward, the artery of the bulb will endangered, as it crosses the perineum about three eighths of an inch above the transversus perinei muscle. If too far back, the whole left lobe of the prostate gland and neck of the bladder may be severed, which will allow infiltration behind the pelvic fascia, and its disastrous consequences.

The arteries of the pelvis sometimes take an abnormal course, especially the obturator, and these may be wounded with the best of skill, as the accident cannot be foreseen; in this case ligation is the only remedy. Some of the smaller arteries that cause much hemorrhage may be twisted.

Besides hemorrhage, the most important consequences likely to follow, are, Retention of urine. Inflamation spreading to the adjacent

parts. Infiltration of urine. Incontinence of urine, Impotence, Fistules of the perineum.

For hemorrhage in nearly all cases, after the necessary ligatures have been applied, an injection of cold water will effectually stop all oozing vessels, and also favors the exudation of plastic lymph.

Retention of urine is seldom permanent, but caused by a coagulum which is removed by passing the catheter.

If undue inflamation, peritonitis, or phlebitis set in, we are fully able to cope with them by our Homoeopathic Therapeutics, taking the totality of the symptoms as the guide.

Urinary infiltration is one of the most serious results, and with the Old School is almost sure to terminate fatally. If caused by too large an opening into the bladder, the most careful

selection of a remedy should be made and a nourishing diet given, and the patient placed in the most favorable position for the urine to discharge itself. Sometimes the external part of the wound will have healed irregularly and need reopening.

Incontinence of urine may depend upon two causes. If caused by any mal-position which the parts assumed while healing, or from a loss of substance, it cannot be remedied.

If from deficient innervation from the effects of the wound it will gradually disappear

Perineal fistules may be caused by the patient being worn out by some of the complications that have been named, or the wound may degenerate into a permanent fistule. When this has taken place, our remidies should be faithfully tried, before an operation is resorted to

Impotence will not follow unless the ejac-

ulatory ducts have been wounded. This can seldom be overcome, but the influence of a homoeopathic remedy may remove it

Having considered the accidents that may occur, we proceed to consider the After Treatment.

After removing the stone and stopping the hemorrhage, a solution of Calendula may be applied to the cut surface or the internal use of Staphisagria. Millefolium, or Calendula, these to be given as the symptoms or conditions indicate

Often there are spasmodic constrictions of the bladder, causing severe pains like colic. Staphisagria is specific when this is present

The patient is now removed to a properly prepared bed. A feather bed is inadmissible.

Under the buttocks must be placed many folds of muslin or some absorbing material, that the parts may be kept clean.

It is advised by the best operators, to place the patient on the right side, for the first few hours afterwards he may choose any position that is comfortable. A state of perfect rest should be observed as much as possible for the first two weeks

The main indication is to heal the wound in the quickest manner, and this by first intention, in order that this may be accomplished, some Surgeons have advised, that a finely polished silver catheter be passed into the bladder and retained there for the first two or three days. That no urine will come in contact with the wound and thus have direct union of the parts,

The appetite of the patient will dictate such diet as will be suitable, but the food should be such as will be easy of digestion and nourishing.

Nature seems to provide, that the bowels become sufficiently torpid, without the usual opiate of the old school.

The room in which the patient is confined should be ventilated properly, and every attention paid to cleanliness. Excoriation guarded against, and the scrotum kept away from the wound with a properly adjusted bandage.

The wound will generally heal in two to four weeks.